

## Claims

1. An apparatus for furnishing a working pressure in a fluid, having a first region (10) in which a first pressure prevails that is higher than the working pressure, a second region (12) in which the working pressure is to be furnished, and means (14, 18, 20) for reducing the first pressure in the first region (10) to the working pressure in the second region (12), which means are disposed between the first region (10) and the second region (12), characterized in that the means (14, 18, 20) for reduction can be influenced by the pressure difference between the first region (10) and the second region (12), so that at a large pressure difference between the first region (10) and the second region (12), a greater reduction is effected than at a low pressure difference between the first region (10) and the second region (12).

2. The apparatus of claim 1, characterized in that the means (14, 18, 20) for reduction include a bore (18) having a structure varying in the longitudinal direction, and a piston (14), which is displaceable in the longitudinal direction in the bore (18) as a function of the pressure difference existing between the first region (10) and the second region (12), so that the resistance to the fluid varies depending on the piston position.

3. The apparatus of claim 2, characterized in that the bore (18) has a first portion (22) and a second portion (24), and the resistance to the fluid is greater the farther the piston (14) penetrates into the second portion (24).

4. The apparatus of claim 2 or 3, characterized in that the piston (14) is guided over its entire displacement path by the bore (18).
5. The apparatus of one of claims 2-4, characterized in that elastic means (20) are provided, which subjects the piston (14) in the longitudinal direction to force that acts in the direction of the first region (10).
6. The apparatus of claim 5, characterized in that the elastic means (20) exert a pressure force on the piston (14) that acts in the direction of the first region (10).
7. The apparatus of claim 5 or 6, characterized in that the elastic means include at least one spring (20), which subjects the piston (14) to force on the side of the second region (12).
8. The apparatus of one of the foregoing claims, characterized in that the pressure in the first region (10) is between about 200 and 1800 bar.
9. The apparatus of one of the foregoing claims, characterized in that the working pressure in the second region (12) amounts to about 30 bar.
10. The apparatus of one of the foregoing claims, characterized in that a pressure-holding valve (16) is provided in the second region (12).

11. The apparatus of one of the foregoing claims, characterized in that in the first region (10), the pressure of a common rail prevails.

12. The apparatus of one of the foregoing claims, characterized in that the second region (12) is the operating region of an injector.

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13. The apparatus of claim 12, characterized in that the injector is a piezoelectric injector.

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14. A method for furnishing a working pressure in a fluid, in which fluid from a first region (10) at high pressure is transferred to a second region (12) at lower pressure, and the pressure of the fluid is reduced to a working pressure in the second region (12), characterized in that the reduction of the pressure is controlled by the pressure difference between the first region (10) and the second region (12), so that the pressure is reduced all the more, the greater the pressure difference between the first region (10) and the second region (12) is.

15. The method of claim 14, characterized in that by the variation in the pressure difference, a piston (14) is displaced that is guided in a bore (18), and the resistance to the fluid is varied by the displacement of the piston (14).

16. The method of claim 14 or 15, characterized in that an elevated working pressure is compensated for by a pressure-holding valve (16).